

Serial No.: 10/530,138

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**IN THE SPECIFICATION**

2 Please amend the specification as follows:

3 On page 12 of the specification, please delete line 8, as follows:

4 ~~Fig. 16 illustrates some possible applications of the color naming methods.~~

5 Please replace the paragraph starting on line 16 of page 30 as follows:

6 It should be noted that while the foregoing methods and system can be used to attach  
7 color names to individual pixels, samples of color, regions and objects in images and to  
8 derive the description of color composition, they can be used in many other applications  
9 involving manipulation with color values, color analysis and color naming in image  
10 processing, video processing, visualization, computer graphics and human-machine  
11 interaction. To start with, using color names to label regions can often improve the result  
12 of image segmentation, since the neighboring regions that share the same color name can  
13 be merged. In many cases color names only, or in combination with other features (such  
14 as spatial attributes, boundary and size features), can provide valuable information about  
15 the analyzed images and reveal their semantics. For example, as illustrated in Fig 16a, a  
16 picture image having regions labeled vivid blue or vivid purplish blue found in the upper  
17 part of the image, may represent sky on a bright sunny day. In the same picture regions  
18 with regular boundaries/geometry and bright saturated colors are very likely to be  
19 man-made objects. Similarly, the flowers shown in a picture Figure 16b can be easily  
20 detected based on the relationships between the curvature and color of the say, a vivid  
21 reddish purple region, and the neighboring green regions. Overall color composition, as  
22 generated with the teachings of this invention, often captures the atmosphere in the scene.  
23 For example, by combining the linguistic terms from the color name syntax described in  
24 teachings of this invention, the scene shown in Figure 15b can be described as  
25 "brownish", and easily related to a man-made environment. Another example of what can

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1 be accomplished by adding the color naming ability to the traditional image features (e.g.  
2 regions, lines, texture, etc.). By merging all the descriptors, as shown in Figure 16e, it can  
3 be easily concluded that the an image is very likely to be an outdoor scene, probably a  
4 cityscape or a man-made structure seen from the large viewing distance. Assuming the  
5 hypothesis is correct, a step further would be to conclude "the weather wasn't really nice  
6 when the picture was taken". Color naming ability may be implemented as a part of  
7 Artificial Intelligence Systems. For example it is also within a scope of these teachings to  
8 manipulate a robot by naming and describing the objects it should pick from the  
9 production line. In such a case a digital image robot receives would be subjected to the  
10 processing shown in Figure 10, and the spatial location of the named color within the  
11 digital image, would be remapped to the actual physical location on the production line.

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